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ACADEMIC SELF-EFFICACY AND ACADEMIC PERFORMANCE AMONG UNIVERSITY UNDERGRADUATE STUDENTS: AN ANTECEDENT TO ACADEMIC SUCCESS

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Abstract:
This study analyzed the relationship between academic self-efficacy and academic performance among university undergraduate students. The study was conducted to attest the relationship and differences between academic self-efficacy and academic performance among university undergraduate students. The sample was drawn from two universities (public and private) on which the questionnaire to measure academic self-efficacy and the Cumulative Grade Point Average (GPA) was distributed to participants (140 females and 153 males) selected from three faculties (Education, humanities, science) using stratified sampling. The universities were selected purposively. Descriptive and inferential statistics were used to analyze the differences and relationship between academic self-efficacy and academic performance among university undergraduate students. The results obtained revealed that there is a statistically significant relationship between academic self-efficacy and academic performance among university undergraduate students ($r(293) = .816$, $p < .01$). There were differences noted as regards gender in the students' academic self-efficacy ($t(291) = 2.76$, $p < .01$), and academic performance ($t(291) = 1.56$, $p < .05$). From the results of this study it is recommended that universities institute measures to enhance students' academic self-efficacy as it has been noted that it is related to their academic performance.

Keywords: academic self-efficacy, academic performance, university undergraduate students

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1. Introduction

1.1 Self-efficacy

Academic self-efficacy refers to students' judgment of one's capabilities to learn or master new knowledge and skills, organize and execute them to attain designated academic performance levels (Bandura, 1977, 1986, 1997; Pajares & Miller, 1994; Nasiriyan, Azar, Noruzy & Dalvand, 2011; Ormrod, Anderman & Anderman, 2017). At this time the student has a measure of control his/ her over individual thoughts, feelings and actions (Rahil, Habibah, Loh, SMuhd, Nooreen& Maria, 2006; Lee & Mendlinger, 2011). The concept of academic self-efficacy alludes self-trust, self-reliance and self-confidence in oneself. Academic self-efficacy beliefs are how effectively individuals believe in how they can attain their anticipated academic outcome(s), or goal(s) (Bandura, 1977, 1997; Sharma, 2014). Academic self-efficacy comprises judgments made by students about their own capabilities to accomplishing academic tasks and situations involved (Blanco et al., 2011; Zimmerman & Kitsantas, 2005). Academic self-efficacy percepts influence thoughts, patterns and emotional arousals that lead to projected academic actions (Bandura, 1982; Ormrod, Anderman & Anderman, 2017). Academic self-efficacy percepts have indirect influence on human behavior in a way that they affect students' levels of commitments to academic goals, students' academic determinations and the feelings they possess towards the challenges and enablers towards their academic goals (Zimmerman & Kitsantas, 2005; Bandura, 1997; 2001; Blanco, et al., 2011).

Bandura (2004) social cognitive theory classifies four fundamental structures of human agency which include; intentionality, forethought, self-reactiveness and self-reflectiveness. All these structures affect the students' academic self-efficacy in the learning processes. Social cognitive theory is for the view that people are agents of their own growth and development and can determine their destiny and achievements through their actions and perception. Through verbal encouragement and physiological arousal inducement students can rise their academic self-efficacy to achieve their academic goals. Academic self-efficacy for self- regulated learning leads to self-monitoring, self- evaluation, goal setting, strategy use and self- reaction that focuses the learners during the learning process (Bandura, 2006). According to research, it has been noted that students who possess strong academic self-efficacy doctrine properly manage their learning and are not overtaken by enticements and social densities to engage in behavior that contravenes with social expectations to deter their academic performance (Carroll, Houghton & Wood, 2009). In this light, students with high academic self-efficacy have greater chances of achieving their academic goals than their counterparts with lower academic self-efficacy (Heidari, Izadi & Ahmadian, 2012; Bandura, Barbaranelli, Caprara & Pastorelli, 2001). Contrariwise, it has also been noted that students with low academic self-efficacy tend to have behavior delinquency, score poor grades and are likely to easily dropout of school than their counterparts who possess high academic self-efficacy (Bandura, 1997; Bandura, Caprara, Barbaranelli, Pastorelli, & Regali, 2001; Carroll, Houghton & Wood, 2009; Heidari, Izadi & Ahmadian, 2012).

Academic self-efficacy is basically explained in the theoretical framework of social cognitive theory by Bandura in which he stated that human achievement depends on interactions between one's behaviours, personal factors and environmental conditions (Bandura, 1986, 1997; Mahyuddin, Elias, Loh, Muhamad, Noordin & Abdullah, 2006). During the learning process academic self-efficacy beliefs influence learners' task choice, efforts, persistence, resilience and their academic performance (Schunk, 1995; Bandura, 1997; Schunk, & Pajares, 2002; Zimmerman, 2000). Bandura (1997) asserts that self-efficacious students participate more readily, work harder, persist longer and have fewer adverse emotional reactions when they encounter difficulties than do those who doubt their capabilities, which make them achieve highly in their academics. The efficacious attainment of learners is attached to their personal accomplishment, reduces students' stress levels and also lowers their vulnerability levels of depression (Bandura, 1994).

It has been noted in renown studies that academic self-efficacy is a motivational aspect to learning (Klassen, et al., 2009). Academic self-efficacy increases the learners' chances of success and provides them the ways for living better life. Learners become fully confident for any type of academic challenge and also try to avoid any threat that might come in their way during the period of achieving their academic goals (Abid, Muhammad, Aaqib & Farhat, 2019). Academic self-efficacy beliefs affect behaviors of a student through how he or she feels, thinks, adjusts and acts against given academic stimuli (Bandura, 1997). Academic self-efficacy determines the amount of effort students put in on learning activities, which activities they select and how they overcome challenges they meet along the learning continuum. As regard boosting students' learning motivation, attaining goals and academic performance, academic self-efficacy is a critical determining factor in the aspects aforementioned (Bandura, 1997; 1986). It is imperative to think that cognitive processes play a role in influencing students' learning but its academic self-efficacy that makes students have commitment to the academic goals a student wants to achieve (Bandura, 1989; Locke & Latham, 1990).

Academic self-efficacy is a key trait for the academic success of students at the university level (Hill, 2002). Academic self-efficacy is a multidimensional trait and does not occur as a disposition (Zimmerman, 2000). General self-efficacy is broadly categorized into two tiers; (a) academic self-efficacy and (b) cognitive ability. The academic self- efficacy is engrossed on the students' perceived academic capabilities to engage on challenging academic tasks. It is envisaged that students with a high academic self-efficacy are expected to perform higher in academic engagements (Abd, et al. 2019; Murphy & Alexander, 2000). According to Blanco, et al. (2011), academic self-efficacy consists of beliefs people have to enhance their capabilities to achieve academically. This helps the learners either to achieve highly or target for the lowest as part of their academic targets. Blanco, et al. (2011) noted three aspects to be part of academic self-efficacy which include; attention, communication and excellence. *Attention* is students' focus on academic matters. This helps students to perceive their difficulties and later pay attention to their areas of weakness in order to succeed (Fuenmayor & Villasmil, 2008). *Communication* comprises of psycho-education abilities, meta-cognition,

psycholinguistics and socio-cultural skills that might facilitate the learning process (Valdivieso, Carbonero & Martin 2013). Whereas excellence requires skills and competences that make one to adhere to the standards and norms that bring about high academic performance. Excellence is a product of setting achievable goals, develop proper strategies and plans that might lead you to the desired goal(s) (Herrera, 2013). Academic self-efficacy can be based on students' orientation or academic experiences, personal difficulties, interpersonal relationships, studies or students' assessment methods, study strategies for the students and institutional assessment, among others. Cognitive abilities and academic self- efficacy have been established to be predictors of students' academic performance. Academic self-efficacy highlights that individuals' confidence in their capabilities to achieve particular goals propel them to target maximum execution and accomplishments of even troublesome tasks (Abd, et al. 2019).

1.2 Academic performance

University education is the peak of determining the future of learners' career. University education is very challenging as regards which career to choose as regards one's education, and also to maintain it. There are several models that have been posited to explain how learners can be successful and also have good academic performance (Momanyi, Ogoma, Misigo 2010; Peterson, Milstein, Chen, and Nakazawa 2011; Schunk 1991). Academic performance is defined as the attained skill(s) and knowledge by learners during the learning process. After learning has been accomplished a teacher provides a test or an exam to attest the students' performance who have undertaken that specific lesson, or course (Good, 2009). Many factors have been identified in different studies that contribute to students' academic performance which include; attitudes and abilities (Owiti, 2001), intellectual capabilities, motivation and academic self-efficacy (Bandura, 1997) as major determining factors. It has been concluded that academic self-efficacy greatly contributes to choose and commitment to learning tasks, zeal to persistence in learning, and level of academic performance (Bandura & Schunk, 1981; Bandura, 1986; Hackett & Betz, 1989). Also, academic self-efficacy is one of the essential features that significantly impact on the academic performance of learners in higher education institutions (Njega, Njoka & Ndung'u, 2019). Training students to have high academic self-efficacy helps them to have critical thinking and to apply elaborative learning strategies (Wang & Wu, 2008). According to different studies academic self-efficacy is related to academic performance of students (Wigfield, Eccles, Schiefele, Roeser & Kean, 2006; Zimmerman, Banudra & Martinez-Pons, 1992; Denissen, Zarrete & Eccles, 2007). In the various studies done it has been highlighted that there is a significant relationship between academic self-efficacy and academic performance (Gao et al., 2011; Klassen, et al., 2009; Prat-Sala & Redford, 2010; Zimmerman, 2000; Mousoulides & Philippou, 2005; Shkullaku, 2013; Stajkovic & Luthans, 1998). It has been revealed in these studies that students are boosted to have higher academic self-efficacy beliefs in return they attain higher academic performance. It has also been suggested in studies that

students' academic self-efficacy needs to be improved in order for them to attain maximum academic performance (Feldman & Kubota, 2015).

1.3 Self-efficacy and academic performance

This study is rebirthed on the self-efficacy theory derived from the social cognitive theory by Albert Bandura (1977; 1986). The social cognitive theory underpins human motivation, cognition, emotions and actions that shoulder the principle that individuals are capable of self-reflecting and self-regulating (internally) their behavior in line with the environmental requirements, or goals. The idea of the social cognitive theory veils the following concepts; (a) individuals have powerful symbolizing capabilities that allow for creation of internal models of experience, (b) most human behavior is purposive or goal-directed and is guided by forethought, (c) individuals are self-reflective, analyze and evaluate their own thoughts and experiences, (d) individuals are capable of self-regulating themselves, (e) and individuals learn vicariously by observing other people's behavior and its consequences. Also, (f) human capabilities are as a result of complex neurophysiological mechanisms and structures, and (g) environmental events, inner personal factors and behavior are mutually interacting stimuli (bandura, 1986). According to self-efficacy verbal persuasion (Maddux, Norton, & Stoltenberg, 1986), physiological state of an individual (Bandura, 1986), emotional state (Ortony, Clore, & Collins, 1988), and distal (past)or proximal (current or immediate) experiences are equally important. Mediating mechanisms for academic self-efficacy include; goal-setting and persistence (Locke & Latham, 1990; Bandura, 1986), cognition (Bandura & Jourden, 1991), affective or emotional responses (Bandura, 1988), selection of environments (Taylor & Brown, 1988), among others.

In Bandura (1986) manuscript he highlights that self-regulation is a critical factor in determining individual's success in accomplishing given tasks. Bandura (1986) asserts that individuals with high self-efficacy attempt to achieve higher goals and also keep on trying even when the targets might seem to be hard to be achieved. On the other hand, individuals with low self-efficacy fail to try even where they would have achieved, or give up easily where thing try to be hard. According Bandura (1997) self-efficacy might differ from one individual to another. He highlighted that self-efficacy might differ due to time, individual differences, academic achievements, among others. Bandura (1977) also alluded that self-efficacy might be determined by environmental, personal, psychological, economic and social factor that might surround an individual from time to time. Bandura (1986) highlights that there are a totally different way people with low self-efficacy and those with high self-efficacy feel and act in life including on academic activities. Individuals who are not certain of their acts and success tend to avoid things that are challenging than those who are certain of their success. According to Bandura (1989) he asserted that individuals who doubt their capabilities and success tend not to get engaged in difficult tasks even when they would succeed when they attempt them. It was envisaged that individuals with high levels of self-efficacy cope up with challenging situations in a mature way not looking at the challenging part of the tasks being

attempted. In light with the social cognitive theory self-efficacy is a key and critical factor that influences students' academic performance. Students with high academic self-efficacy have high beliefs in themselves and also would like to attain higher academic goals as they envisage them.

1.4 Hypotheses for the study

The study tested the following hypotheses;

1. There are no gender differences in academic self-efficacy and academic performance among university undergraduate students.
2. There is no relationship between academic self-efficacy and academic performance among university undergraduate students.

2. Methodology

2.1 Research design

The study adopted a purely quantitative approach to research using a correlational research design in collecting and analyzing the data. The quantitative approach assisted in analyzing the relationship and understanding the gender differences in between academic self-efficacy and academic performance among university undergraduate students.

2.2 Sample

A sample of 300 students was selected from two universities (public and private) considering three faculties; Education, Humanities and Sciences. The modified academic self-efficacy questionnaire was distributed to 300 participants for the study. 293 questionnaires were returned fully answered and were used to analyze data for this study. The stratified sampling strategy was used to select participants from each faculty (education (98), humanities (102) and science (93)). The universities that participated in the study were selected purposively. The sample that participated in the study comprised of 140 females and 153 males.

Table 1: Showing population, sample size and sampling technique

Categories	Sample	Sampling technique
Faculty		
Education	98	Stratified sampling
Humanities	102	Stratified sampling
Sciences	93	Stratified sampling
Total	**293**	
Gender		
Females	140	Stratified sampling
Males	153	Stratified sampling
Total sample	**293**	

2.3 Instrument

A modified academic self-efficacy self-administered closed ended questionnaire was used to collect data from the participants. The Kunnathodi and Ashraf (2006) academic self-efficacy scale was modified based on the Albert Bandura (1977) self-efficacy theory derived from the social cognitive theory framework. The items were modified to suit university students because the instrument was prior used on the secondary students. In the construction of the academic self-efficacy scale Kunnathodi and Ashraf (2006) considered all dimensions of academic work that contribute to the overall learning process. Also, the scale had prior considered the Schwarzer and Jerusalem (1995) scale when being formulated (Kunnathodi & Ashraf, 2006). The academic self-efficacy scale dimensions include; learning process (items 1, 36), reading (items 2, 13, 24), comprehension (items 3, 15, 23), memory (items 4, 14, 25), curricular activities (items 5, 16, 27, 33), time management (items 6, 17), teacher student relationship (items 7, 29), peer relationship (9, 19), utilization of resources (items 8, 18, 26), goal orientation (items 10, 21), adjustment (items 11, 20, 28, 31, 34, 37, 39) and examination (items 12, 22, 30, 32, 35, 38, 40). Among the 40 items, 20 statements are negative while 20 statements are positive. After the instrument was modified, it was piloted on 35 undergraduate students who were randomly selected from two universities. In order to test for the item adequacy of the items in the instrument, a normal distribution test, reliability and validity tests and inter-item correlation were conducted. All the primary tests conducted revealed that the items were adequate.

2.4 Validity and reliability

Both validity and reliability tests were conducted to test for the instrument's adequacy and consistence in measuring what it is supposed to measure. Construct validity of the modified academic self-efficacy was done through expert judgments. Three experts validated the instrument and it was discovered that the instrument was valid (Content validity = .89). For reliability, the Cronbach's Alpha coefficient (.88) obtained indicated that the instrument was reliable to collect data for this study.

Table 2: Construct reliability

Variables	Number of Items	Cronbach's alpha
Modified Academic Self-efficacy	40	0.88

After the instrument was tested for its validity and reliability and found to be adequate statistical analyses were conducted on the data; independent t-test and regression analysis. The results obtained from the analyses are as in the results below;

3. Results

3.1 Hypothesis 1: In explaining to whether there are gender differences in self-efficacy and academic performance among university undergraduate students, independent t-

tests were conducted to compare gender against self-efficacy and gender against academic performance as seen in Table 3 below.

Table 3: t-test result comparing males and females on academic self-efficacy and academic performance

Variable	Gender	N	*X*	SD	*t*	*p*-value	*df*
Academic Self-efficacy	Males	152	4.63	.36	2.76**	$p < .01$	291
	Females	141	4.02	.65			
Academic Performance (CGPA)	Males	152	4.01	.43	1.56*	$p < .05$	291
	Females	141	3.68	.63			

**p<.01, *p<.05

According to results obtained in Table 3, the mean academic self-efficacy for the male students (M = 4.63, SD = .36) was greater than that of the female students (M = 4.02, SD = .65). Also, from the results of this study it was observed that there was a statistically significant difference in academic self-efficacy among undergraduate students according to gender ($t_{(291)} = 2.76$, $p < .05$). As regards gender and academic performance, again the mean academic performance for male students (M = 4.01, SD = .43) was greater than that of the female students (M = 3.68, SD = .63). The results also reveal a statistically significant difference in academic performance among university undergraduate students according to gender ($t_{(291)} = 1.56$, $p < .05$).

3.2: Hypothesis 2: This stated that there is no relationship between self-efficacy and academic performance among university undergraduate students. The results obtained are as per Table 4 below;

Table 4: Self-Efficacy and Academic Achievement

		Self-efficacy	CGPA
Self-efficacy	Pearson correlation	1	.876**
	Sig. (2-tailed)		.003
	N	293	293
Academic Performance (CGPA)	Pearson correlation	.876**	1
	Sig.(2-tailed)	.003	
	N	293	293

**p<.01, *p<.05

According to the results in Table 4, it is revealed that there is a statistically significant relationship between academic self-efficacy and academic performance among university undergraduate students ($r_{(293)} = .816$, $p < .01$). From the results obtained in Table 4 it can be concluded that there is a high relationship between academic self-efficacy and academic performance among university undergraduate students in Ugandan universities.

4. Conclusion and Discussions

The results of this study have revealed new findings in the area of academic self-efficacy and academic performance among university undergraduate students. The results of this study have revealed that students' academic self-efficacy is a critical factor in nurturing the ability of the learners to focus and also strive for higher academic excellence (Njega, Njoka & Ndung'u, 2019; Fong & Yuen, 2016; Haddoune, ND). The findings reveal that there is a significant difference in academic self-efficacy among students based on gender which might bring an effect in their academic performance. According to different studies, it has been noted that students with high academic self-efficacy tend to have higher academic performance than their counter parts with low academic self-efficacy (Yokoyama, 2019; Alay & Triantoro, 2013; Aurah, 2017; Oyuga, Raburu & Aloka, 2019). This becomes pertinent for instructors or teachers to help the learners develop their academic self-efficacy in order to achieve highly academically (Namubiru, 2019). It has been noted in this study that males who had higher academic self-efficacy also had higher academic performance. This affirm to findings from previous studies that stated that the higher the academic self-efficacy, the better the performance of students in the classroom. The previous analogy reflects to only the results of this study and the sample as the results discussed are from the descriptive statistics of this study.

The study has highlighted a gap that there might be differences in academic self-efficacy among students in universities which might be leading to a difference in their academic performance. This leads to a suggestion that there should be room during the teaching learning session to help the learners improve their academic self-efficacy. The process of improving the learners' self-efficacy should involve an active engagement between the learner(s) and the teacher(s) or instructor(s), that might involve but not limited guidance and counselling activities (Njega, et al., 2019; Nkechi, Ewomaoghene & Egenti, 2016). The process of shaping the learners' self-efficacy should also involve behavior and personality development to enhance total molding of the child focusing of their academic capabilities and potentialities towards the desired academic goal to be achieved (Nkechi, et al., 2016). The shaping and enhancing learners' academic self-efficacy should be for both males and females, and across all programs. This is because this study has discovered that there seem to be significant gender-based differences in academic self-efficacy among undergraduate students in universities. In lieu to achieve adequate levels of academic self-efficacy among students in universities the instructors should employ various methods to achieve their goals. Among the methods that might be used include; stimulations from the fellow students who might have been identified to have higher academic self-efficacy, exposure of students to people or role models that have high academic self-efficacy, mentorship, guidance and counseling, developing comprehensive capacity development programs, among others. All these would help in shaping and modification of the university students' academic self-efficacy.

It might also be important for teachers to understand the physiological wellbeing of their students. This might also have an influence of their academic self-efficacy.

Physiological tests to the students as regards their perceptions, attitudes, intrinsic motivation, values which might help the teachers or instructors to know whether students' low academic self-efficacy might be as a results of the aforementioned components. In any case, any intervention made by the teachers or instructors during the learning process would improve the academic self-efficacy of the learners by helping them to understand themselves better, have bigger visions within their capacity and also internalize and integrate self-efficacy enhancement as part of their personality development programs (Ferrell & Barbera, 2015; Njega, et al., 2019).

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